

Service Manual

Radio

RF-1650J

(Black)

FM-MW-SW 3 Band Portable Receiver



This is the Service Manual
for the following areas.

☐ Z ... For all European
areas except United
Kingdom, F.R.
Germany, France,
Italy and Finland.

☐ I ... For Italy and Finland.

☐ X ... For Asia, Latin
America, Middle East
and Africa areas.

■ SPECIFICATIONS

General:

Power Requirement: AC; ☐ Z ☐ I 220 V, 50 Hz
☐ X 110~127/220~240 V,
 50/60 Hz
 Battery; ☐ Z ☐ I 6 V (Four "C" Size
 Flash light Batteries)
 (Panasonic UM-2 or
 equivalent)
☐ X 6 V (Four "C" Size
 Flashlight Batteries)
 (National UM-2 or
 equivalent)

Power Consumption: 4 W (AC only)

Power Output: ☐ Z ☐ I 1.2 W MPO
 1 W RMS (max.)
☐ X 1.4 W MPO
 1.2 W RMS (max.)

Speaker: 10 cm PM Dynamic
 Speaker (3Ω)

Output: Earphone/External Speaker; 3~8Ω/Ø3.5

Dimensions: 266 mm (W) × 143 mm (H) × 81 mm (D)

Weight: 960 g without batteries

Radio Section:

Radio Frequency
 Range:

☐ Z ☐ I FM; 87.5~108 MHz
 MW; 520~1610 kHz
 (577~186 m)
 SW; 5.9~18 MHz
 (50.8~16.7 m)

☐ X FM; 88~108 MHz
 MW; 530~1605 kHz
 (566~187 m)
 SW; 5.9~18 MHz
 (50.8~16.7 m)

Intermediate Frequency: FM; 10.7 MHz

AM (MW/SW); 455 kHz

Sensitivity:

FM; 2.8μV/50 mW output
 (-3 dB Limit Sens)

MW; 89μV/m/50 mW output

SW; 7μV/50 mW output

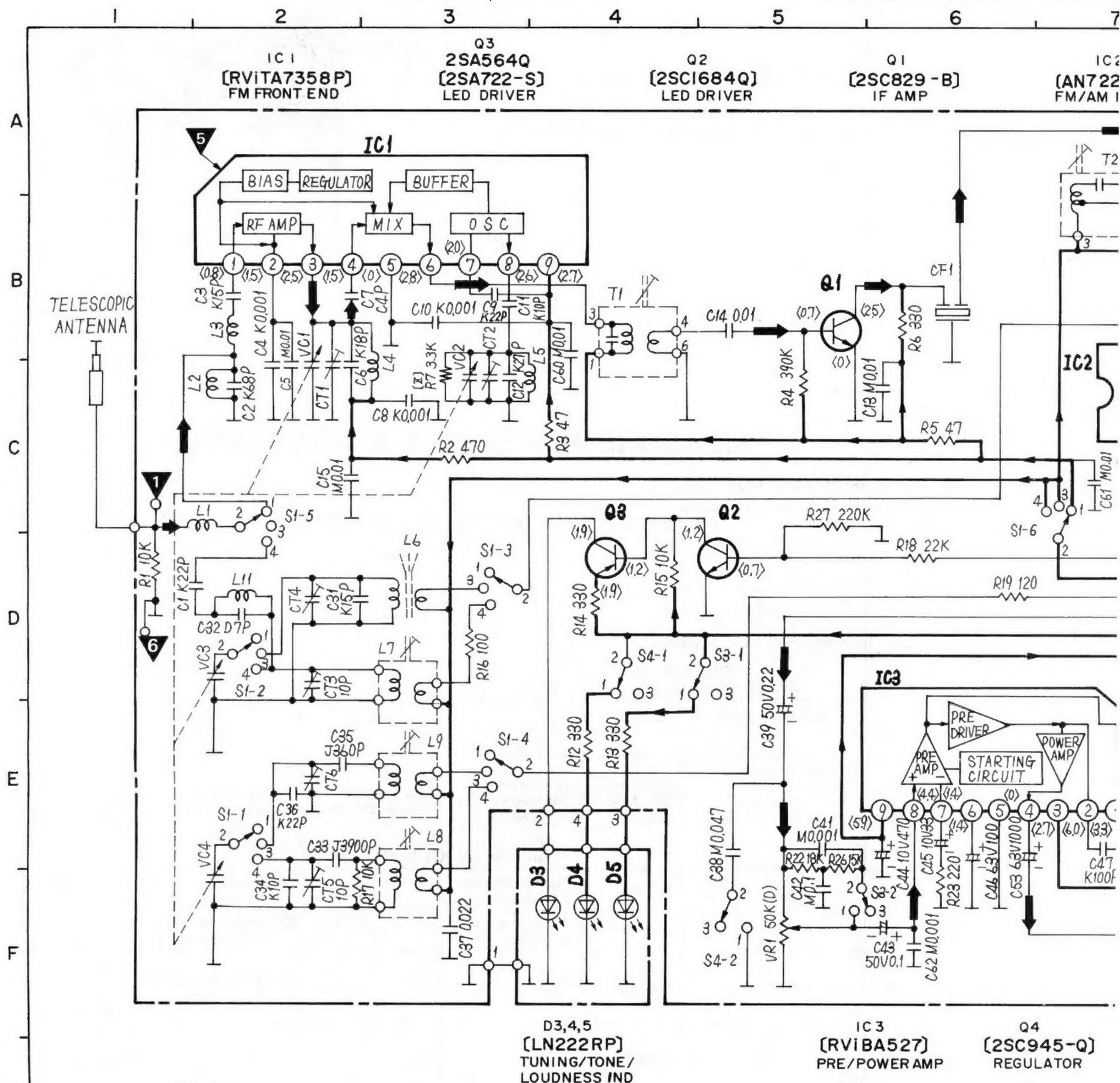
Design and specifications are subject to change without notice.

National / Panasonic

Matsushita Electric Trading Co., Ltd.

P.O. Box 288, Central Osaka Japan

SCHEMATIC DIAG

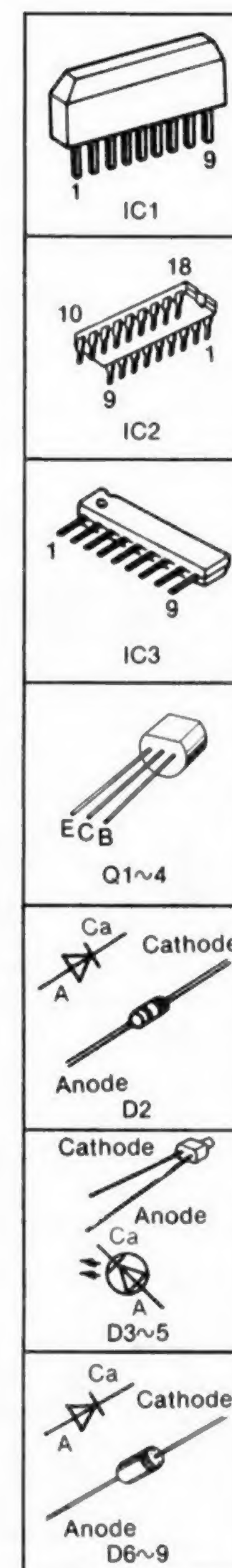
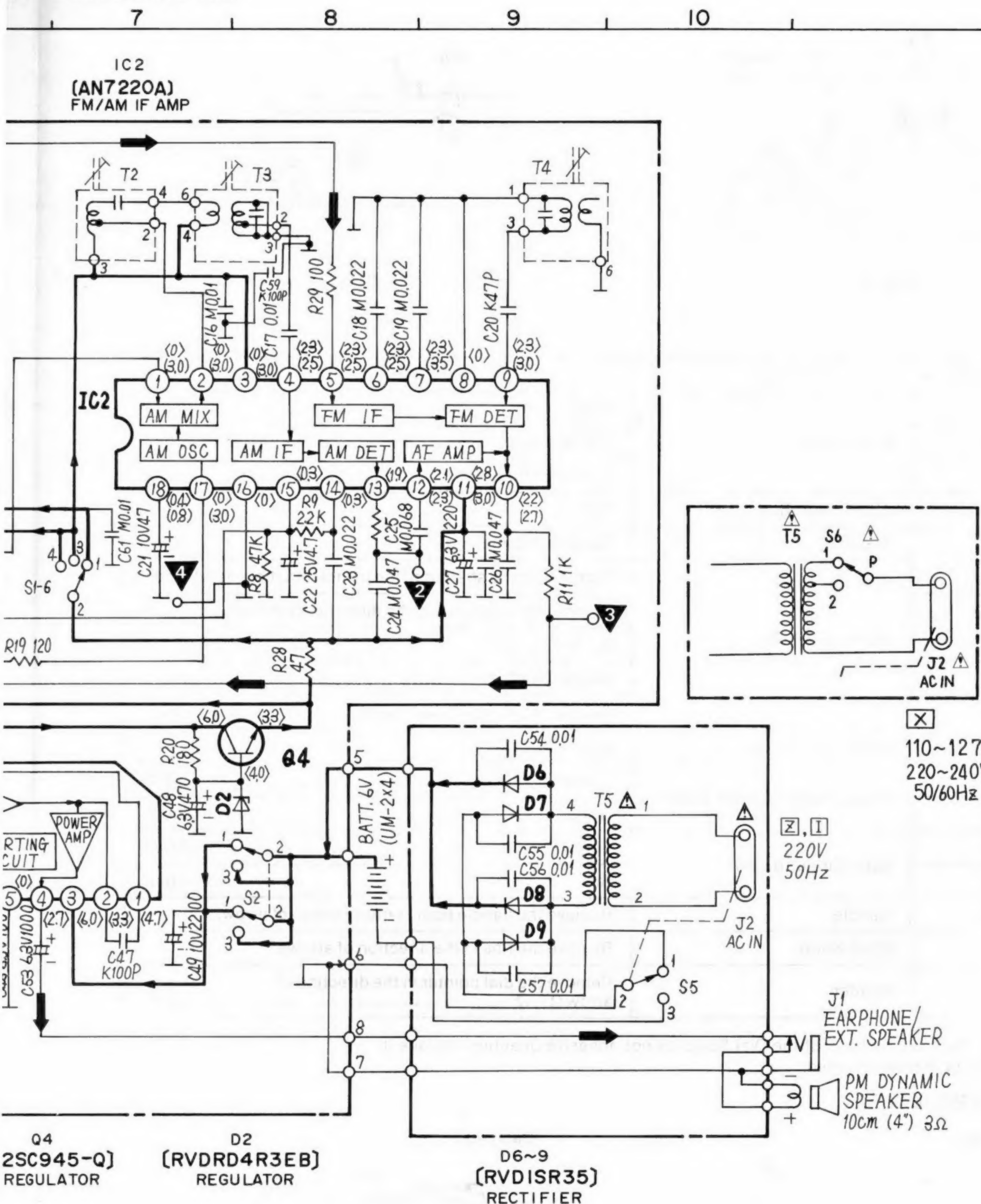


Notes:

- S1-1~S1-6: Band switch in "FM" position.
(1...FM, 3...MW, 4...SW)
- S2-1, S2-2: Radio ON/OFF switch in "ON" position.
- S3-1, S3-2: LOUDNESS ON/OFF switch in "OFF" position.
- S4-1, S4-2: TONE HIGH/LOW switch in "HIGH" position.
- S5: AC/DC IN select switch in "AC IN" position.
- S6 [X]: Voltage Selector
- VR1: Volume control.
- The mark (▼) shows test point e.g. ▼ = test point 1.
- DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
< >...FM position, ()...AM position
- Battery current: No signal 32mA
Maximum output (radio) 290mA

- Important safety notice
Components identified by ▲ mark have special characteristics important for safety.
When replacing any of these components, use manufacturer's specified parts.
- Described in schematic diagram are two types the supply parts number and production parts number for transistors and diodes.
One type number is used for supply parts number and production parts number which they are identical.
[X]...For Asia, Latin America, Middle East and Africa
[Z]...For all European areas except United Kingdom, France, Italy and Finland.
[I]...For Italy and Finland.

IC DIAGRAM



mark have special
safety.
components, use only
i.
m are two types of numbers;
production parts number for
supply parts number and
n they are identical.
Middle East and Africa areas.
United Kingdom, F.R. Germany,

e.g. Q3

2SA564Q ————— Production parts number

[2SA722-S] ————— Supply parts number

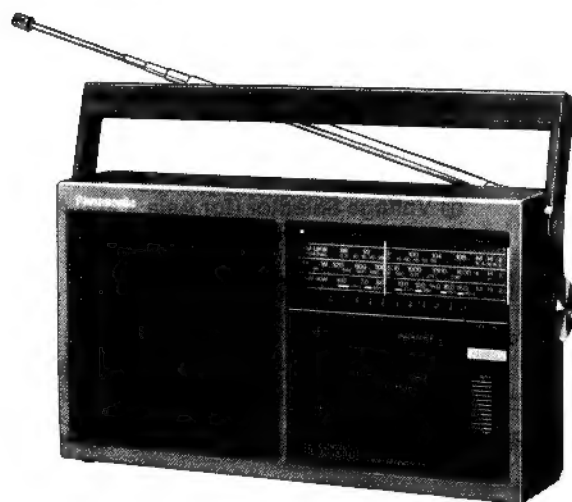
- * The supply parts number is described alone in the replacement parts list.
- * This schematic diagram may be modified at any time with the development of new technology.

➔ +B Voltage Line
➔ Radio (FM) Signal Line

Service Manual

Radio
RF-1630J
(Black)

FM-MW-SW 3 Band Portable Receiver



This is the Service Manual for the following areas.

☒ ...For all European areas except United Kingdom, F.R. Germany, France, Italy and Finland

☒ ...For Asia, Latin America, Middle East and Africa areas

☐ ...For Australia

■ SPECIFICATIONS

General:

Power Requirement: AC; ☒ ...220 V, 50 Hz
☒ ...110~127/220~240 V, 50/60 Hz
☐ ...240 V, 50 Hz
 Battery; ☒ ...6 V (Four "C" Size Flashlight Batteries)
 (Panasonic UM-2 or equivalent)
☒ ☐ ...6 V (Four "C" Size Flashlight Batteries)
 (National UM-2 or equivalent)
 Power Consumption: 4 W (AC only)
 Power Output: ☒ ...1 W...RMS (max.)
☒ ☐ ...1.2 W...MPO
 1 W...RMS (max.)
 Speaker: 8 cm PM Dynamic Speaker (3Ω)
 Output: Earphone/External Speaker; 3~8Ω/∅3.5
 Dimensions: 246 mm (W)×131 mm (H)×79 mm (D)
 Weight: 900 g without batteries

Radio Section:

Radio Frequency
Range:

☒ ...FM; 87.5~108 MHz
 MW; 520~1610 kHz (577~186 m)
 SW; 5.9~18 MHz (50.8~16.7 m)
☒ ☐ ...FM; 88~108 MHz
 MW; 530~1605 kHz (566~187 m)
 SW; 5.9~18 MHz (50.8~16.7 m)

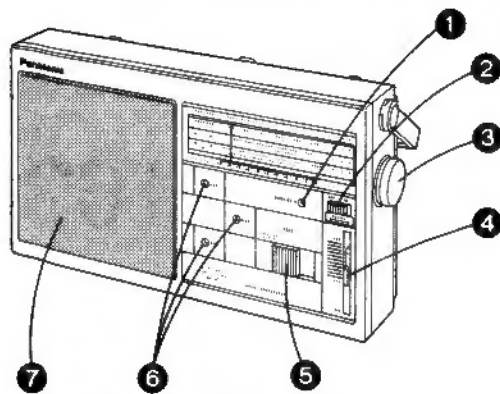
Intermediate
Frequency:

FM; 10.7 MHz
 AM (MW/SW); 455 kHz
 FM; 3.2 μV/50 mW output
 (-3 dB Limit Sens)
 MW; 80 μV/m/50 mW output
 SW; 13 μV/50 mW output

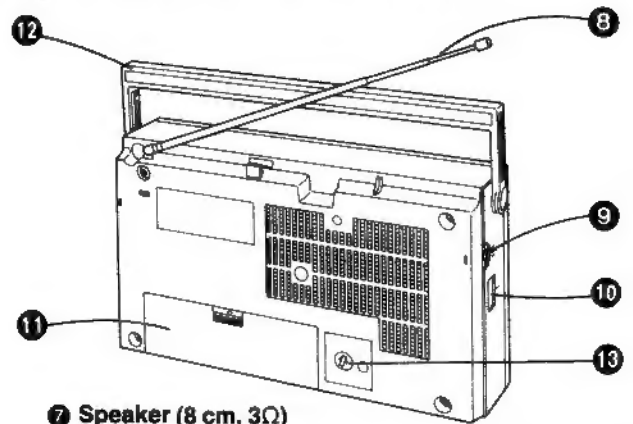
Sensitivity:

Design and specifications are subject to change without notice.

LOCATION OF CONTROLS AND COMPONENTS



- 1 Radio On Indicator (RADIO ON)
- 2 Radio Switch (RADIO)
- 3 Tuning Control (TUNING)
- 4 Volume Control (VOL)
- 5 Band Selector (BAND)
- 6 Band Indicators



- 7 Speaker (8 cm, 3Ω)
- 8 Telescopic Antenna
- 9 Earphone/External Speaker Jack (IMP 3-8Ω ϕ 3.5)
- 10 AC Socket (AC IN ~)
- 11 Battery Compartment
- 12 Handle
- 13 Voltage Selector (for Asia, Latin America, Middle East and Africa areas.)

DISASSEMBLY INSTRUCTIONS

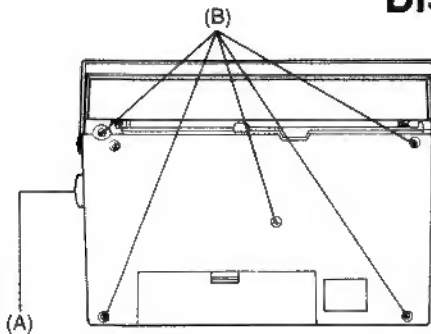


Fig. 1

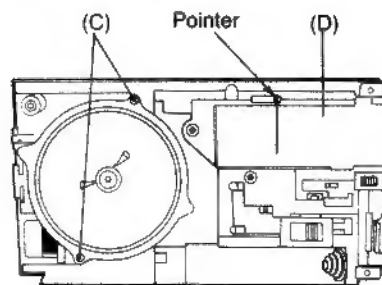


Fig. 2

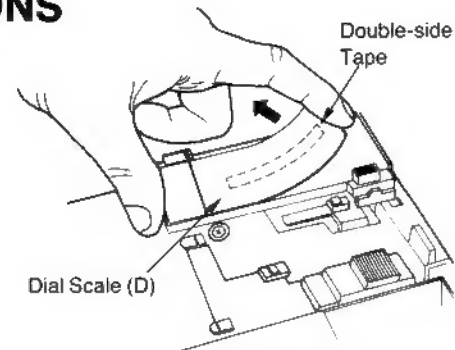


Fig. 3

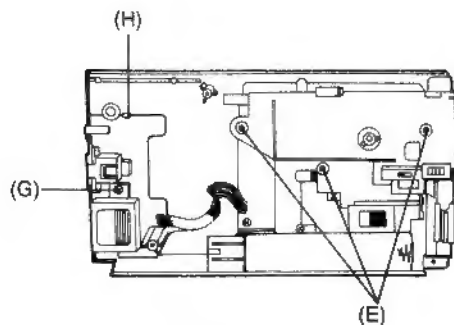


Fig. 4

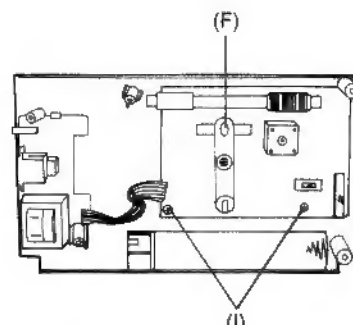


Fig. 5

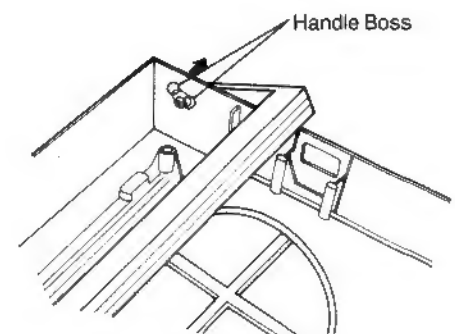


Fig. 6

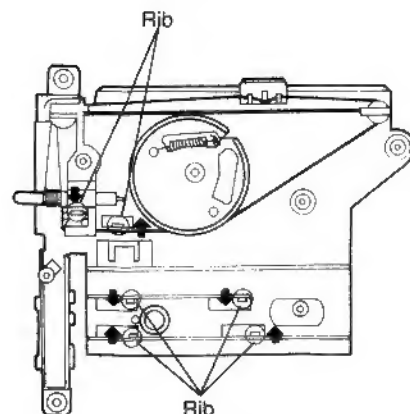


Fig. 7

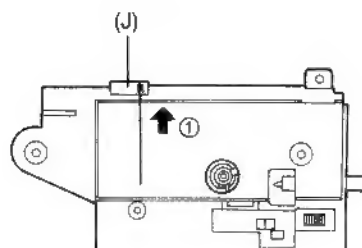
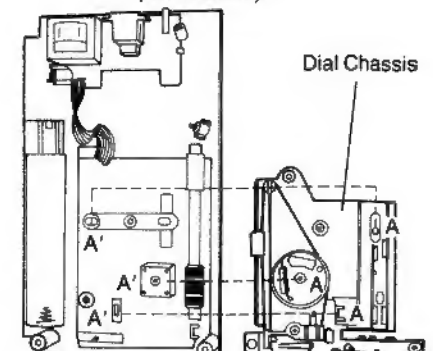


Fig. 8

■ HOW TO REPLACE (Dial chassis)



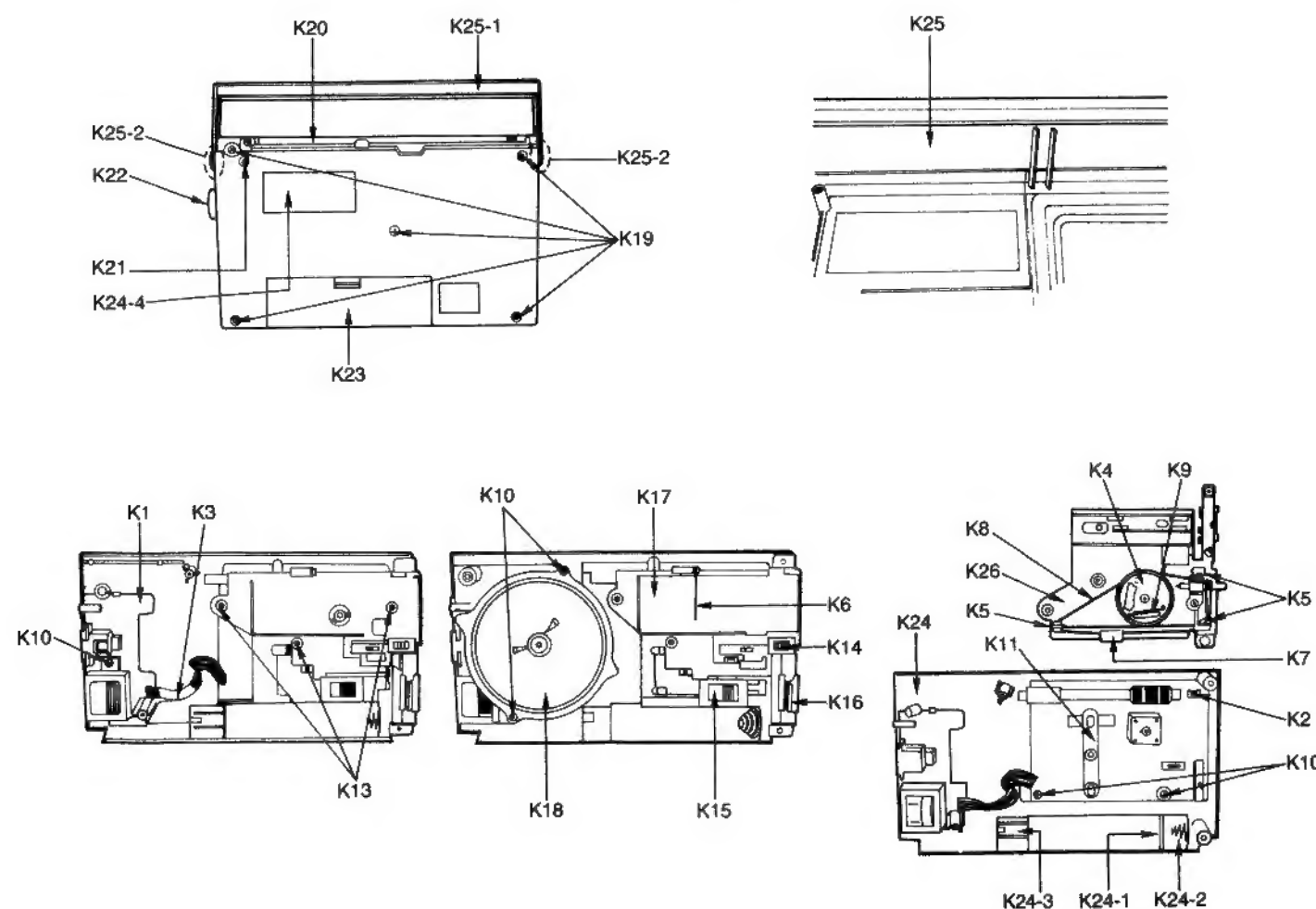
During installation, simultaneously fit in A and A'.

Fig. 9

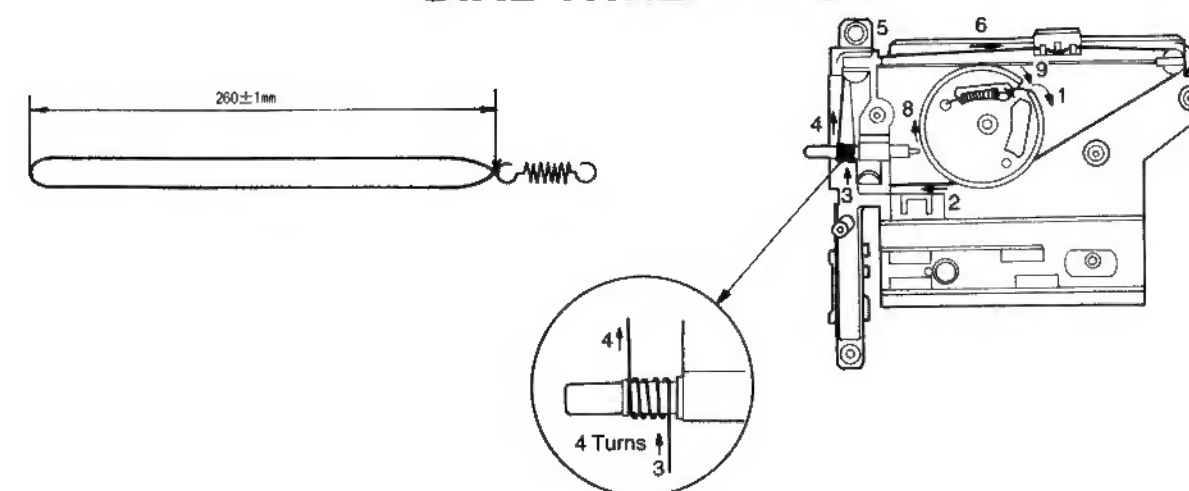
Ref. No.	Shown in Fig. —	To remove —	Remove —
1	1	Front Cabinet	Knob(A)×1
2	1		Screw (3×16)mm(B)×5
3	2	Speaker	Screw (3×12)mm(C)×2
4	2	Dial Chassis (*1)	Turn the tuning shaft until the pointer reaches the left end.
5	2, 3		Remove the dial scale in the direction of the arrow ... (D)×1
6	4		Screw (3×30)mm(E)×3
7	5	Band Switch Lever (*2)	Lever(F)×1
8	4	Power Supply Circuit Board	Screw (3×12)mm(G)×1
9	4		Rib(H)×1
10	5	Main Circuit Board	Screw (3×12)mm(I)×2
11	6	Handle	Remove the handle both in the direction of arrow.
12	7	Band Knob	Remove the ribs in the direction of arrows.
13	8	Pointer	Pull out the dial pointer in the direction of arrow ①.(J)×1

- *1. If the double-sided tape on the back of the Dial Scale its not adhesive qualities, replace it.
*2. Note that they may be tightly engaged.

CABINET PARTS LOCATION



DIAL THREADING



MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

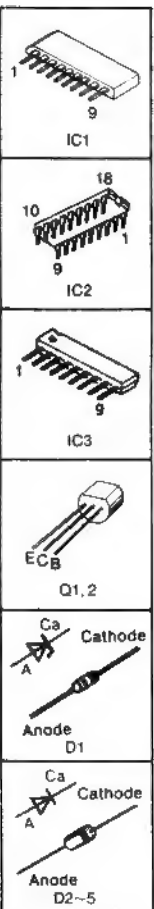
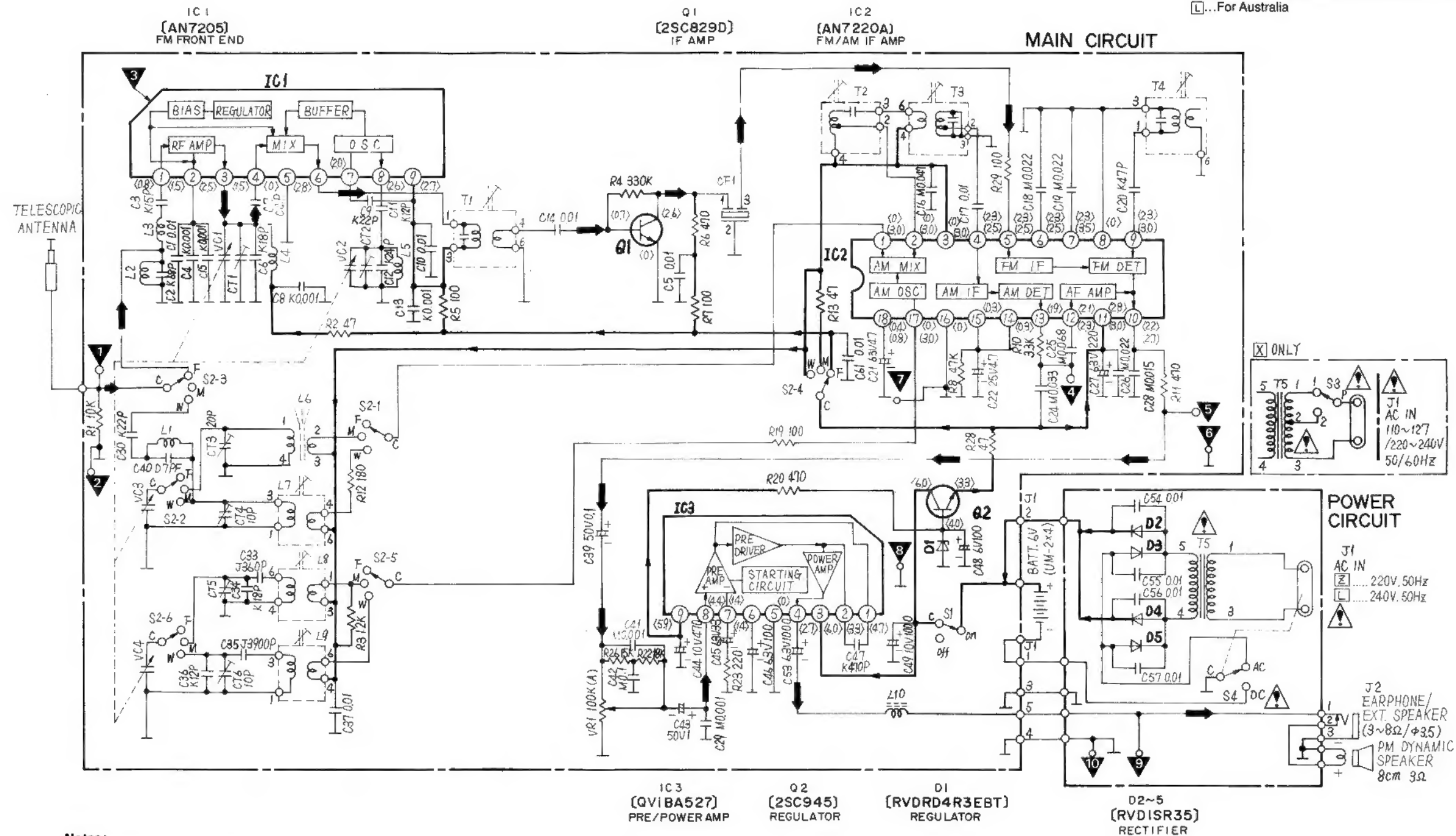
- Set volume control to maximum.
- Set loudness switch to OFF.
- Set tone switch to OFF.
- Set band switch to MW, SW or FM.
- Set radio (power) switch to ON.
- Set power source voltage to 6 V DC.
- Output of signal generator should be no higher than necessary to obtain an output reading.

■ LW, MW and SW ALIGNMENT

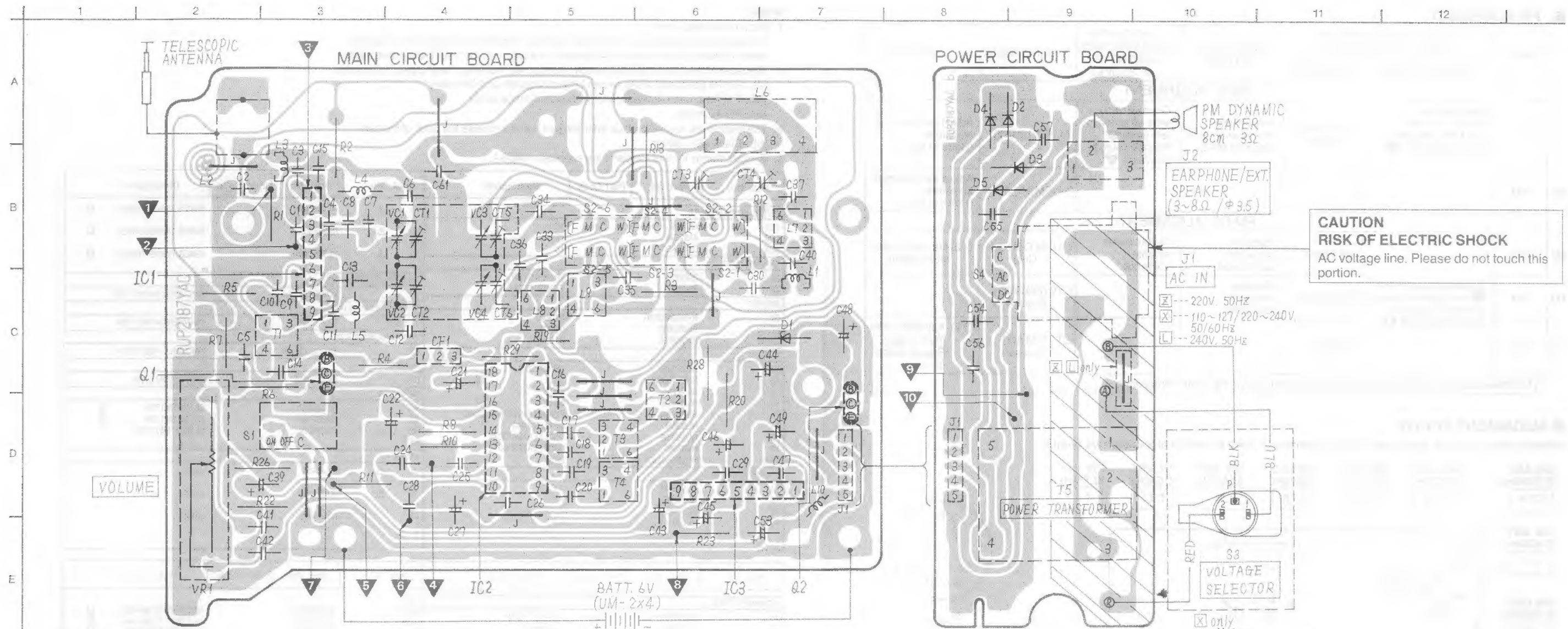
	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
AM-IF ALIGNMENT							
(1)	MW	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. at 400 Hz	Point of non-interference. (on/ about 600 kHz)	Output meter across voice coil.	T2 (AM 1st IFT) T3 (AM 2nd IFT)	Adjust for maximum output.
MW-RF ALIGNMENT							
(2)	MW	"	511 kHz	Tuning capacitor fully closed.	"	L8 (MW OSC Coil)	Adjust for maximum output.
(3)	MW	"	1650 kHz	Tuning capacitor fully open.	"	CT5 (MW OSC Trimmer)	"
(4)	MW	"	550 kHz	Tune to signal.	"	(* 1) L6 (MW ANT Coil)	Adjust for maximum output. Adjust L6 by moving coil bobbin along ferrite core.
(5)	MW	"	1,500 kHz	"	"	CT3 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).
(* 1) Cement antenna bobbin with wax after completing alignment.							
SW-RF ALIGNMENT							
(6)	SW	"	5.75 MHz	Tuning capacitor fully closed.	"	L9 (SW OSC Coil)	Adjust for maximum output.
(7)	SW	Connect to test point ▼ through ceramic capacitor (10 pF) Negative slide to test point ▼	18.8 MHz	Tuning capacitor fully open.	"	CT6 (SW OSC Trimmer)	"
(8)	SW		5.9 MHz	Tune to signal.	"	L7 (SW ANT Coil)	"
(9)	SW		18 MHz	"	"	CT4 (SW ANT Trimmer)	Adjust for maximum output. Repeat steps (6)~(9).

SCHEMATIC DIAGRAM

[Z]...For all European areas except United Kingdom, F.R. Germany, France, Italy and Finland
 [X]...For Asia, Latin America, Middle East and Africa areas
 [L]...For Australia



CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM



CAUTION
RISK OF ELECTRIC SHOCK
AC voltage line. Please do not touch this portion.

ELECTRICAL PARTS LIST

Numbering System of Resistor

Example:	25	F	J	101
Type	Wattage	Shape	Tolerance	Value (100Ω)
ERJ	6G	C	J	2R2
Type	Wattage	Shape	Tolerance	Value (2.2Ω)

Resistor Type	Wattage	Tolerance
ERD: Carbon Resistor	10 : 1/8W	F: ±1%
ERC: Solid Resistor	25 : 1/4W	G: ±2%
ERF: Incombustible Box-Shaped Wire-Wound Resistor	50 : 1/2W 18 : 1/4W 14 : 1/8W 12 : 1/16W	J: ±5% K: ±10% H: ±20%
ERG: Metal Oxide-Film Resistor	1 : 1W 2 : 2W 3 : 3W	
ERM: Wire-Wound Resistor	S1 : 1/2W S2 : 1/4W S3 : 1/8W S4 : 1/16W	
ERO: Superstable Metal Film Resistor	6G : 1/10W 8G : 1/16W	
ERX: Metal-Film Resistor		
RRJ: Chip Resistor		

※ Capacity are in microfarads (μF) unless specified otherwise, P=Pico-farads.
※ Resistance are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000KΩ

Numbering System of Capacitor

Example:	1H	102	Z	F
Type	Voltage	Value (1000pF)	Tolerance	Peculiarity
ECEA	50		R47	
Type	Voltage	Peculiarity	Value (0.47 μF)	

Capacitor Type	Voltage	Tolerance
ECCD: Ceramic Capacitor (Chitacon)	(ECCD, ECKD Type) 1H : 50 V DC 2H : 500V DC	K : ±10% M : ±20%
ECKD: Ceramic Capacitor (Chitabari)	(ECFD Type) C : 12V DC D : 25V DC	Z : +80% -20%
ECFD: Semiconductor Ceramic Capacitor (ECQ Type)	III : 50V DC	J : ±5% G : ±2% F : ±1%
ECE: Electrolytic Capacitor	05 : 50WV DC 1 : 100WV DC	C : ±0.25pF M : ±0.5pF F : ±1pF
ECS: Tantalum Fixed Electrolytic Capacitor	(ECE, ECS Type) 0G : 4V 0J : 6.3V	
ECQ: Polystyrene Film Capacitor	1A : 10V 1C : 16V 1E : 25V 1V : 35V	
ECQS: Polystyrene Film Capacitor	1H : 50V 1J : 83V 2A : 100V	
ECQV: Polypropylene Film Capacitor		
ECQV: T.F. Capacitor		
ECU: Chip Capacitor		
RCU: Cylindrical Ceramic Capacitor		

Notes:

- [Z]...For All European areas except United Kingdom, F.R. Germany, France, Italy and Finland
- [X]...For Asia, Latin America, Middle East and Africa areas
- [L]...For Australia

Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code
CAPACITORS			C25	ECFT1C683MD		C54, C55	ECKT1H103ZFD	
C1	ECKT1H103ZFD		C26	ECFT1C223MD		C56, C57	ECKT1H103ZFD	
C2	ECCT1H680K		C27	ECEA0JU221		C61	ECKT1H103ZFD	
C3	ECCT1H150K		C28	ECFT1C153MD		RESISTORS		
C4	ECKT1H102KBD		C29	ECKT1H102MD		R1	ERD25FJ103	
C5	ECKT1H103ZFD		C30	ECCT1H220KC		R2	ERD25TJ470	
C6	ECCT1H180KC		C33	ECQ2A361JZ		R3	ERD25TJ122T	
C7	ECCT1H040C		C34	ECCT1H180KC		R4	ERD25TJ334	
C8	ECKT1H102KBD		C35	ECQ2A332JZ		R5	ERD25TJ101	
C9	ECCT1H220KC		C36	ECCT1H120KC		R6	ERD25TJ471	
C10	ECKT1H103ZFD		C37	ECKT1H103ZFD		R7	ERD25TJ101	
C11	ECCT1H120KC		C38	ECEA1HJ0R1		R8	ERD25TJ473	
C12	ECCD1H240KC		C40	ECCT1H070DC		R10	ERD25FJ332	
C13	ECKT1H102KBD		C41	ECKT1H102MD		R11	ERD25TJ471	
C14	ECKT1H103ZFD		C42	ECFV1C104MD		R12	ERD25FJ181	
C15	ECKT1H102KBD		C43	ECEA1HJ010		R13	ERD25TJ470	
C16	ECFV1E473MD		C44	ECEA1AU471		R19	ERD25TJ101	
C17	ECKT1H103ZFD		C45	ECEA0JU330		R20	ERD25TJ471	
C18, C19	ECFT1C223MD		C46	ECEA0JU101B		R22	ERD25TJ183	
C20	ECCT1H470K		C47	ECKD1H471KB		R23	ERD25TJ221	
C21	ECEA0JU470		C48	ECEA0JU101B		R26	ERD25TJ153	
C22	ECEA1EU477		C49	ECEA1CS2102		R28	ERD25TJ470	
C24	ECFT1C333MD		C53	ECEA0JU102		R29	ERD25TJ101	

FM ALIGNMENT

FM ALIGNMENT							
BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS	
	CONNECTIONS	FREQUENCY					
FM-IF ALIGNMENT							
(1)	FM	High side thru. 0.001 μ F to test point ∇ , Negative side to test point ∇ .	10.7 MHz (SWP.)	Point of non-interference. (on/about 90 MHz)	Connect vert. amp. of scope to test point ∇ . Negative side to test point ∇ .	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 2).
(2)	FM	"	"	"	"	T4 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 3).
FM-RF ALIGNMENT							
(3)	FM	Connect to test point ∇ through FM dummy antenna. Negative side to test point ∇ .	86.2 MHz	Variable capacitor fully closed.	Output meter across voice coil.	L5 (FM OSC Coil)	(*2) Adjust for maximum output.
(4)	FM		109.2 MHz	Variable capacitor fully open.	"	CT2 (FM OSC Trimmer)	"
(5)	FM		106 MHz	"	"	CT1 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3)~(6).
(*2) Three output responses will be present; proper tuning is the center frequency.							

(*2) Three output responses will be present; proper tuning is the center frequency.

ALIGNMENT POINTS

(Please refer to Circuit Board and Wiring Connection Diagram which is located test points)

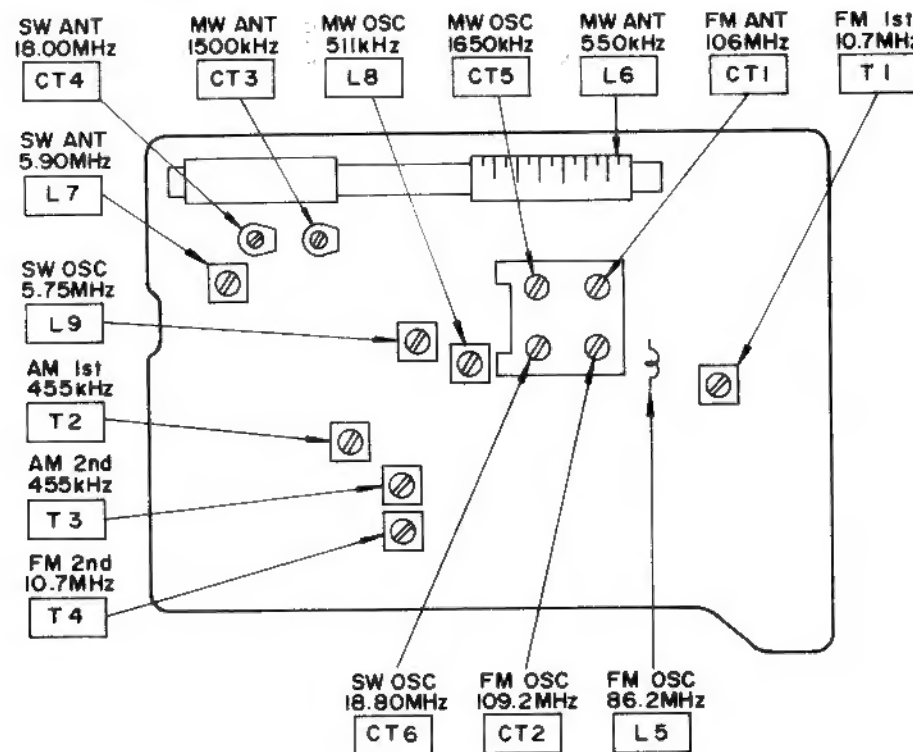


Fig. 1

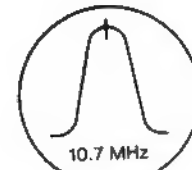


Fig. 2



Fig. 3

DIAL POINTS (0 Point adjustment)

- Turn the Variable Capacitor to fully counter-clockwise.
- Position the pointer over the slot.

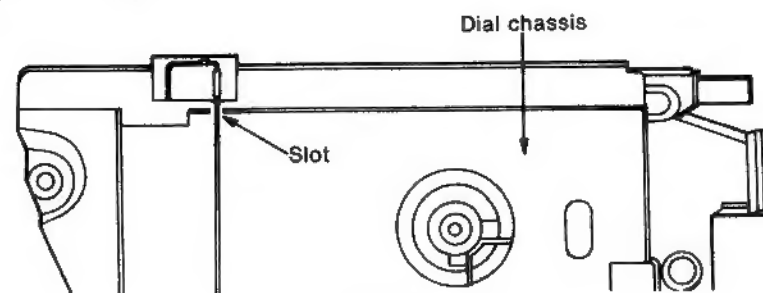


Fig. 4

REPLACEMENT PARTS LIST

Notes:

- Important safety notice
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- The letter in the square bracket bottom the Ref. No. indicates the shipping destination.
[Z]...For All European areas except United Kingdom and Germany
[X]...For Asia, Latin America, Middle East and Africa areas
[L]...For Australia
- The letter in the square bracket after the part name indicates the color of the part.
[K]...Black, [S]...Silver
- [M] mark stands for that the parts are supplied in MESA.

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS				T5	Δ	RLT512E1A	POWER TRANSFORMER [M]
IC1	ANT205	IC		[XL]			
IC2	ANT20A	IC		T5	Δ	RLT512G3A	POWER TRANSFORMER [M]
IC3	QV1BAS27	IC		[Z]			
TRANSISTORS				T5	Δ	RLT512X3A	POWER TRANSFORMER [M]
Q1	2SC829D	TRANSISTOR		[X]			
Q2	2SC945	TRANSISTOR		VARIABLE CAPACITORS			
DIODES				VC1		RCV4RC2R1A	VARIABLE CAPACITOR
D1	RVD0R4R3EBT	DIODE	[M]	TRIMMER CAPACITORS			
D2, D3	RVD1SR35	DIODE		CT3, CT4		RCVT220F	TRIMMER CAPACITOR
D4, D5	RVD1SR35	DIODE		VARIABLE RESISTORS			
COILS				VR1		EWASL2C95A14	VARIABLE RESISTOR
L1	RLQY24S1	CHOKE COIL		FILTERS			
L3	RLQY18S3W	COIL	[M]	CF1		RVF107WAZ	CERAMIC FILTER
L4	RLD4Y44	COIL		SWITCHES			
L5	RLD4Y43W	COIL	[M]	S1		RSS2M43Z	SLIDE SWITCH [M]
L6	RLF2W155	FERRITE ANTENNA COIL		S2		RSS3F14Z	SLIDE SWITCH [M]
L7	RLA3B41	COIL SW ANT		S3	Δ	RSR2A01Y	ROTARY SWITCH
L8	RLQ2B109	OSCILLATOR COIL		JACKS			
L9	RLQ3B87	OSCILLATOR COIL		J1	Δ	RJJ1A3Y	JACK
L10	RLQ2D101K	COIL		[XL]			
TRANSFORMERS				J1	Δ	RJJ1A4ZD	JACK
T1	RL14B153	I.F.T		[Z]			
T2	RL12B207	I.F.T		J2		RJJ1D20Y	JACK
T3	RL12B217	I.F.T					
T4	RL14B153	I.F.T					

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
CABINET PARTS				[Z]			
K1	Δ	RUP2187YAC	POWER P.C.B	K24-1		RJC2005ZA	BATTERY TERMINAL [M]
K2		RJT865Z	TERMINAL	K24-2		RJC60008ZA	BATTERY TERMINAL [M]
K3		WBB5CB-9K1K1	CORD	K24-3		RJC92005ZA	BATTERY TERMINAL [M]
K4		RDD414YC	DRUM	K24-4		RGT1250YA-0	NAME PLATE [M]
K5		RDR54Z	ROLLER, DIAL	[XL]			
K6		RDP288Z	POINTER [S]	K25		RYMF1630JXKS	FRONT CABINET ASS'Y [K] [M]
K7		RDA104Z	HOLDER	[XL]			
K8		RZ20303	DIAL ROPE	K25		RYMF1630JZKS	FRONT CABINET ASS'Y [K] [M]
K9		RDS4060A	SPRING	[Z]			
K10		XTV9+10G	SCREW	K25-1		RYHF1630LZKS	HANDLE [K] [M]
K11		RUB464ZA	LEVER	K25-2		RIOX165Z	SPACER
K13		XTB3+30CFN	TAPPING SCREW	K26		RZAF1630LZKS	CHASSIS ASS'Y [K] [M]
K14		RBD438ZA-0	KNOB [K]	ACCESSORIES			
K15		RBD440ZA-0	KNOB [K]	A1	Δ	QFC10B1	AC CORD
K16		RBD441ZA-0	KNOB [K]	[X]			
K17		RKD713WA-0	SCALE [K]	A1	Δ	RJA20Z	AC CORD
[Z]				[Z]			
K17		RKD713XA-0	SCALE [K]	A1	Δ	RJA26Z	AC CORD
[XL]				[XL]			
K18		RAS8P30ZA-0	SPEAKER	A2		RQX4925ZA	OPERATING INSTRUCTIONS [M]
K19		XTB3+16CFZ	SCREW	[Z]			
K20		XEARK182EJY	TELESCOPIC ANTENNA	A2		RQX4948ZA	INSTRUCTION BOOK [M]
K21		XYNG+25FN	SCREW	[XL]			
K22		RBN704Z	KNOB [K]	PACKINGS			
K23		RYNF1630LZKS	BATTERY COVER ASS'Y [K] [M]	P1		RPNE548ZA	PAD COMPLETE
K24		RYFF1630JXKS	REAR CABINET ASS'Y [K] [M]	P2		RPK2464ZA	GIFT BOX [M]
[X]				[XL]			
K24		RYFF1630JXLK	REAR CABINET ASS'Y [K] [M]	P2		RPK2468ZA	GIFT BOX [M]
[XL]				[Z]			
K24		RYFF1630JZKS	REAR CABINET ASS'Y [K] [M]	P3		XZB36X35A04	POLYETHYLENE COVER

Service Manual

FM-MW-SW 3 Band Portable Receiver

Radio
RF-1630J
(Black)

- Please use this manual together with the service manual for model No. RF-1630J order No. GAD8610065C8.
- This service manual indicates the main differences between; Original RF-1630J (for [Z] mark area) and RF-1630J [G] for F.R. Germany/[I] for Italy.

This is the Service Manual for the following areas.

[G]...For F.R. Germany

[I]...For Italy

■ PARTS COMPARISON TABLE

- NOTES:** 1. Important safety notice.
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
2. The letter in the circle after the part name indicates the color of the part.
[K]...Black
3. • mark stands for that the parts are supplied from MESA.
4. [G]...For F.R. Germany, [I]...For Italy.

Ref. No.	Description	Part Number		Remarks
		RF-1630J[Z] (Original)	RF-1630J[G][I]	
L5	Coil	RLD4Y43W	RL04N198	
L12, 13	Coil Δ	—	RLQZB470K	
L14	Coil	—	RLQZD101K	
C11	Capacitor (50 V, 39 pF)	ECCT1H120KC	ECCT1H390KC	
C12	Capacitor (50 V, 22 pF)	ECCD1H240KC	ECCT1H220KC	
C26	Capacitor (16 V, 0.047 μ F)	ECFT1C223MD	ECFT1C473MD	
C27	Capacitor (6.3 V, 470 μ F)	ECEA0JU221	ECEA0JU471	
C37	Capacitor (16 V, 0.022 μ F)	ECKT1H103ZFD	ECFT1C223MD	
R3	Resistor (560 Ω)	ERD25TJ122T	ERD25TJ561	
R14	Resistor (1.2 k Ω)	—	ERD25VJ122	Added
R15	Resistor (1.2 k Ω)	—	ERD25TJ122T	Added
•K1	Power P.C.B. Δ	RUP2187YAC	RUP2187XAC	
K8	Dial Rope	RZZ0303	RDZ05A	Correction
•K17	Scale [K]	RKD713WA-0	RKD713VA-0	
•K24	Rear Cabinet Ass'y [K]	RYFF1630JZKS	RYFF1630JZGK	[G] only
			RYFF1630JZIK	[I] only
•K24-4	Name Plate [K]	—	RGT1250XA-0	[G] only
			RGT1250WA-0	[I] only

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka, Japan

MEASUREMENTS AND ADJUSTMENTS

■ LW, MW and SW ALIGNMENT

[Z]...For All European areas except United Kingdom & Germany.

[G]...For F.R. Germany.

[I]...For Italy.

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
MW-RF ALIGNMENT						
(2)	MW	"	511 kHz	Tuning capacitor fully closed.	"	L8 (MW OSC Coil) Adjust for maximum output.
(3)	MW	"	1650 kHz	Tuning capacitor fully open.	"	CT5 (MW OSC Trimmer) "
(4)	MW	"	550 kHz	Tune to signal	"	(*1) L6 (MW ANT Coil) Adjust for maximum output. Adjust L6 by moving coil bobbin along ferrite core.
(5)	MW	"	1500 kHz	"	"	CT3 (MW ANT Trimmer) Adjust for maximum output. Repeat steps (2)~(5).
(*1) Cement antenna bobbin with wax after completing alignment.						

RF-1630J[Z]



(2)	MW	"	516 kHz	Tuning capacitor fully closed.	"	L8 (MW OSC Coil)	Adjust for maximum output.
(3)	MW	"	1636 kHz	Tuning capacitor fully open.	"	CT5 (MW OSC Trimmer)	"
(4)	MW	"	550 kHz	Tune to signal.	"	(*1) L6 (MW ANT Coil)	Adjust for maximum output. Adjust L6 by moving coil bobbin along ferrite core.
(5)	MW	"	1500 kHz	"	"	CT3 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).
(*1) Cement antenna bobbin with wax after completing alignment.							

RF-1630J[I] only

■ FM ALIGNMENT

BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS	
	CONNECTIONS	FREQUENCY					
FM-RF ALIGNMENT							
(3)	FM	Connect to test point ▼ through FM dummy antenna. Negative side to test point ▼.	86.2 MHz	Variable capacitor fully closed.	Output meter across voice coil.	L5 (FM OSC Coil)	(*2) Adjust for maximum output.
(4)	FM		109.2 MHz	Variable capacitor fully open.	"	CT2 (FM OSC Trimmer)	"
(5)	FM		106 MHz	"	"	CT1 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3)~(6).
(*2) Three output responses will be present; proper tuning is the center frequency.							

RF-1630J[Z]



(3)	FM	Connect to test point ▼ through FM dummy antenna. Negative side to test point ▼.	87,35 MHz	Variable capacitor fully closed.	Output meter across voice coil.	L5 (FM OSC Coil)	(*2) Adjust for maximum output.
(4)	FM		108,35 MHz	Variable capacitor fully open.	"	CT2 (FM OSC Trimmer)	"
(5)	FM		106 MHz	"	"	CT1 (FM ANT Trimmer)	(*2) Adjust for maximum output. Repeat steps (3)~(6).
(*2) Three output responses will be present; proper tuning is the center frequency.							

RF-1630J[G][I]

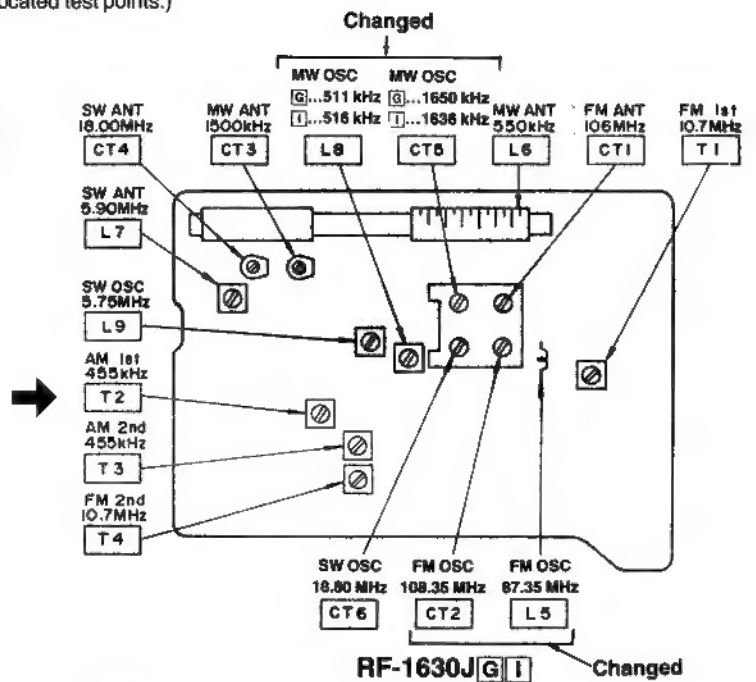
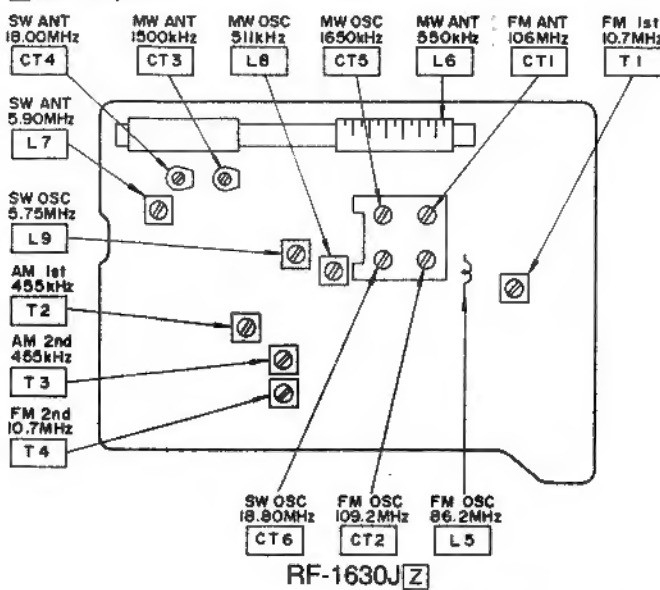
■ ALIGNMENT POINTS

(Please refer to Circuit Board and Wiring Connection Diagram which is located test points.)

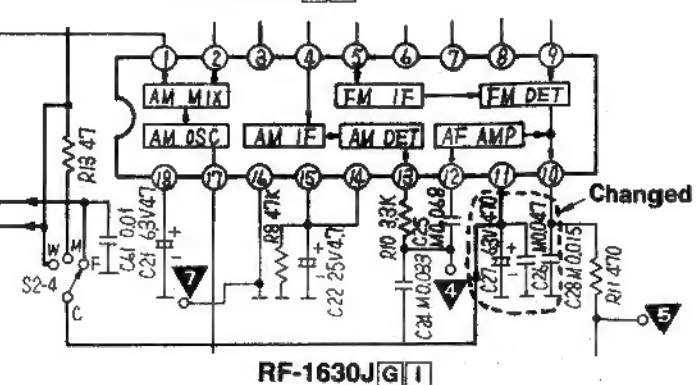
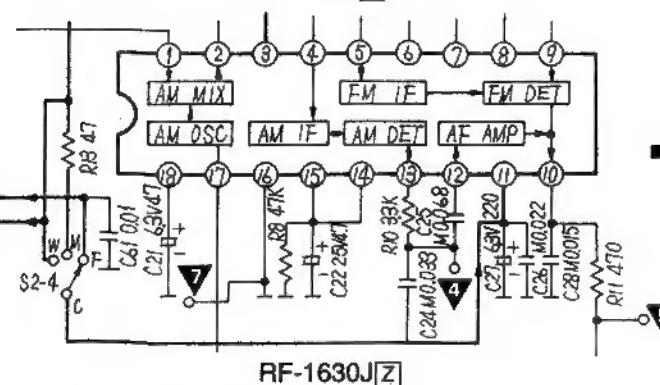
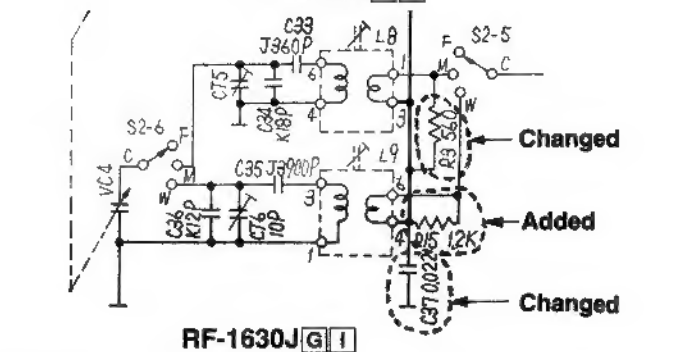
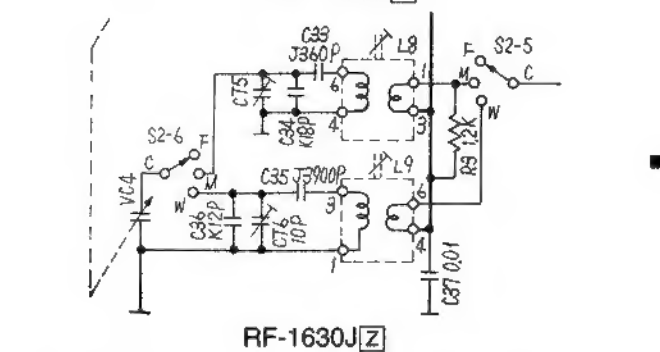
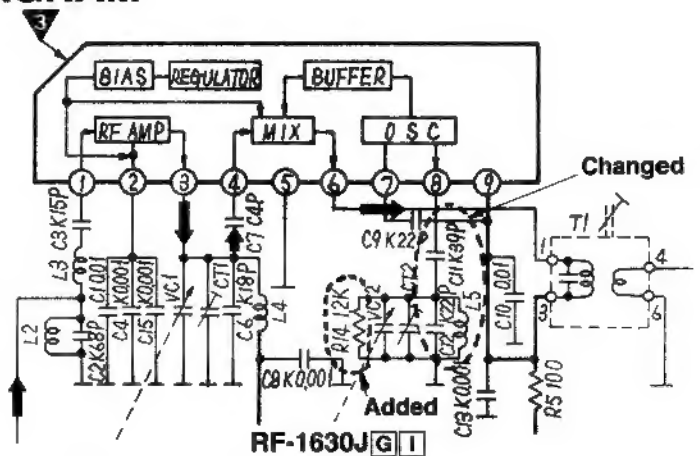
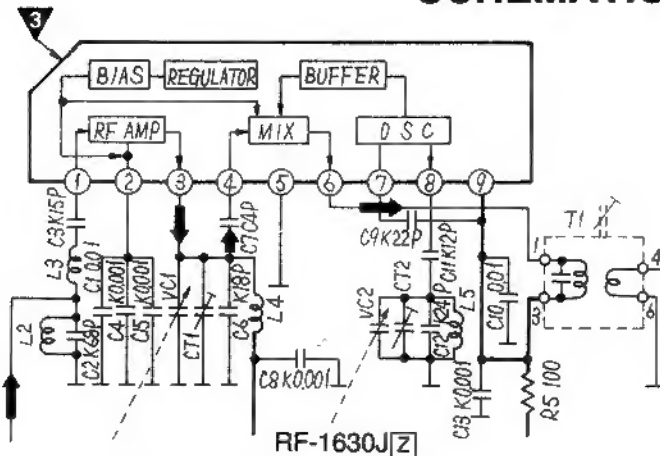
[Z]...For All European areas except United Kingdom & Germany.

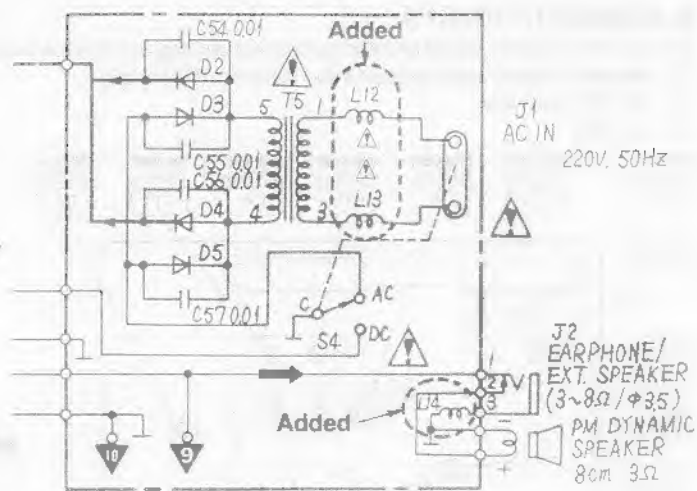
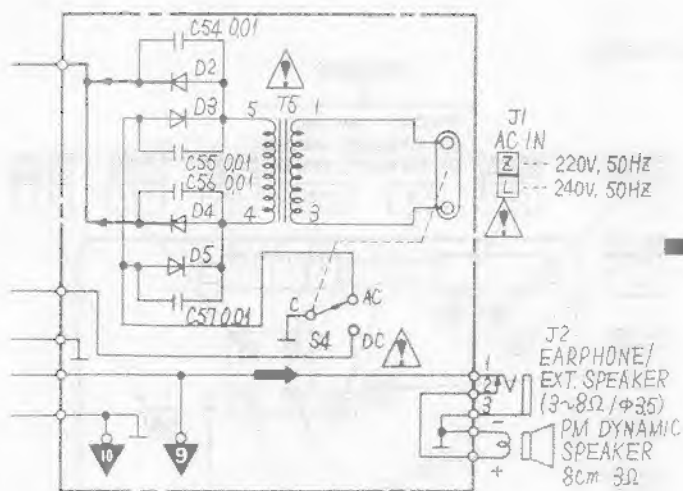
[G]...For F.R. Germany.

[I]...For Italy.

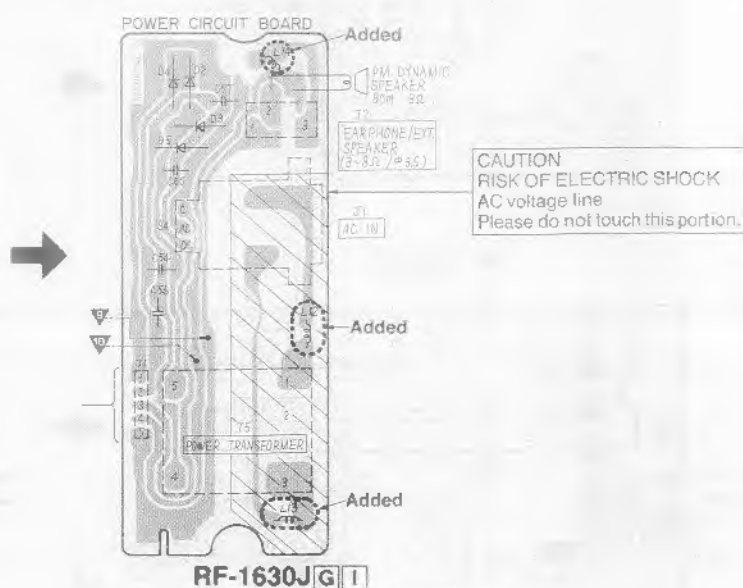
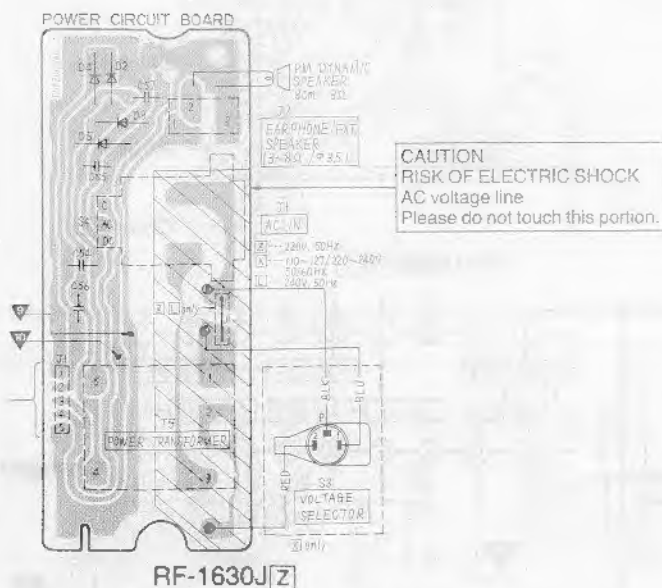
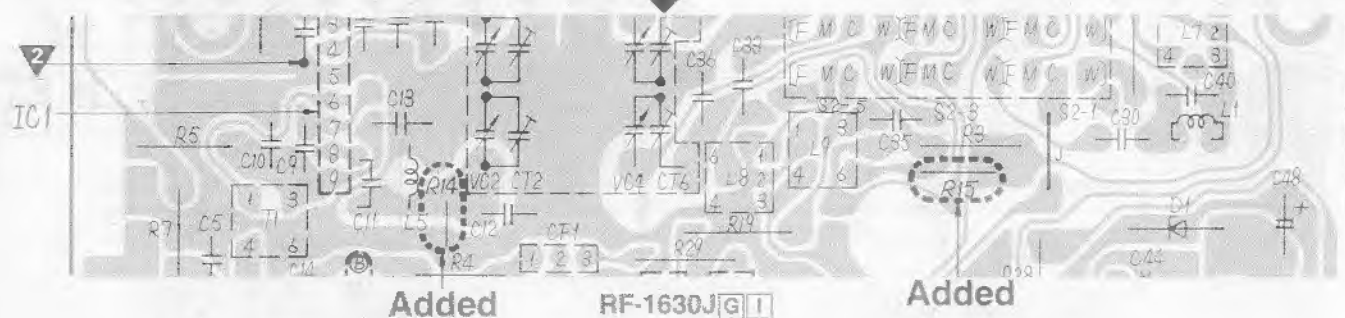
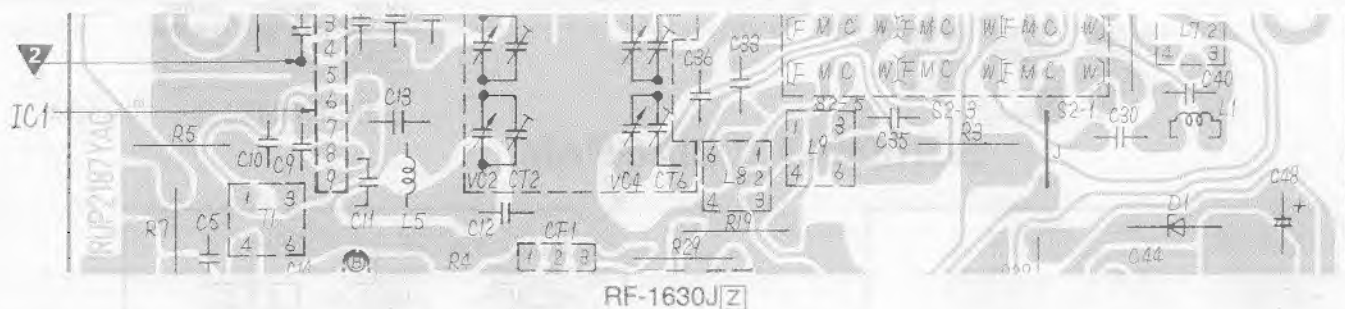


SCHEMATIC DIAGRAM





CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



[Z]...For All European areas except United Kingdom & Germany.
[G]...For F.R. Germany.
[I]...For Italy.

MESA
H.S./K.K.

G I

Printed in Japan (P)